CYBEX® International

Defining Fitness

Cybex 800S Stepper
Owner's Manual

Cardiovascular Systems

eCybex.com™

CYBEX® International

Defining Fitness

Cybex 800S Stepper
Owner's Manual

Cardiovascular Systems

Part Number LT-03154 January 2002

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Name: _____ Title: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: ( ) _____ Fax: ( ) _____

Installation Date (m/d/y): ___/___/___ By: _____

Model Number: _____

Serial Number: _____

Date of purchase: ___/___/___ Where did you purchase your CYBEX equipment?

Dealer/Other: _____

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1. Complete Warranty Registration Card in it's entirety.
2. Remove card from the perforated sheet.
3. Drop card in the mail.

Please note that your warranty cannot be activated until this card is received by Cybex International.

Table Of Contents

Chapter 1
Introduction

The 800S Stepper. 1-1

Chapter 2
Assembly and Setup

Assembly Overview 2-1
800S Stepper Assembly. 2-1
Part List for the 800S Stepper. 2-1
Attaching the Display Upright to the Base 2-3
Installing the Display Upright Collar. 2-3
Attaching the Handrails to the Display Upright 2-3
Attaching the Display Console to the Handrails. 2-4
Leveling the 800S Stepper. 2-5

Plugging in the 800S Stepper 2-6
Connecting Climbers for Racing 2-6
Setting Options 2-6
Drive Cable Maintenance. 2-7

Chapter 3
Let's Climb

Overview 3-1
Before You Start 3-1
Your Workout 3-2
Manual Mode 3-2
Using the Preset Programs 3-3
The Workout Display. 3-4
Workout Summary 3-6

Chapter 4
Advanced Features

Setting a Calorie Goal 4-1
Group Racing 4-2
Solo Racing 4-3
Fitness Test 4-4
Custom Program 4-5
  Designing a Custom Program 4-5
  Using a Custom Program 4-6

Chapter 5
Heart Rate Programs

Chapter 6
Testing the 700S Stepper and 800S Stepper Performance

Appendix A
Clinbing Level to Speed Conversion

Appendix B
Speed and Enerey Conversions

Appendix C
Cardiotouch Heart Rate Monitor

♥ Easy to use C-1
♥ Heart Rate Control Compatible. C-1
♥ Versatile C-1
Not Getting a Reading? C-1

IMPORTANT SAFETY INSTRUCTIONS: Read and Save

1. Read all instructions before using this equipment.
2. DANGER: DISCONNECT FROM SUPPLY CIRCUIT BEFORE OPENING.
   AVERTISSEMENT: DECONNECTEUR DU CIRCUIT D'ALIMENTATION AVANT D'OURVRIR.
3. Unplug all electrical appliances before cleaning and after use.
4. Close supervision is necessary when this equipment is used by or near children or disabled persons.
5. Use this equipment for the intended use as described in this manual.
6. Never operate equipment that has a damaged power cord or plug.
7. Never drop or insert any object into any opening on this equipment.
8. Do not use outdoors.
9. To disconnect, switch off power switch (just above power cord plug), then remove plug from outlet.

In the presence of power line "noise" such as fast transients, the equipment may require that power be switched off and then back on again, to resume normal operation.

IMPORTANT GROUNDING INSTRUCTIONS

Warning:
Connect This Equipment to a Properly Grounded Outlet
ATTENTION -
BRANCHER CET EQUIPMENT UNE PRISE CORRECTEMENT RELIEÉ À LA TERRE

This equipment is for use only on a nominal 120-volt circuit and has a grounding outlet that looks like the outlet illustrated in Figure A, below. This equipment ***must*** be grounded. No adapter should be used. It has been supplied with a cord having an equipment grounding conductor and plug. This plug must be plugged only into a properly installed grounded outlet. Failure to do so can result in the risk of electrical shock. Do not modify the plug provided with this product-if it does not fit, have a qualified electrician install the proper style outlet.

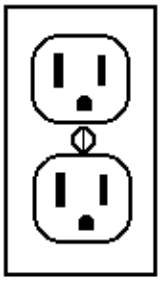

Figure A - Grounded Outlet

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Chapter 1 - Introduction

The 800S Stepper

Welcome to the 800S Stepper, the perfect stepper for any health club or other group exercise environment. Durability, ease of use, flexible programming, and group racing capability make it ideal for both individual and partnered workouts.

Features include:

- Simple to Use: Press any key and the 800S Stepper console leads you through the simple steps to start a workout. Or, just step on and start stepping.
- Continuous Performance Monitoring: The convenient, easy-to-read console shows the progress of the workout-vertical speed, calories burned, and lots more.
- Built-in Workout Profiles: Six standard workouts offer combinations of calorie burning, strength training and endurance training to satisfy almost everyone.
- Programmable: Users who want a specific workout profile that's not included in the standard set can create their own.
- Calorie Goals: Tell the 800S Stepper how long you want to work out and how many calories you want to burn, and it will set the optimum speed for you.
- Optional Heart Rate Programs: With its optional heart rate monitor; the 800S Stepper can program a workout to reach and keep you at your optimal heart rate.
- Group Races: Connect up to eight steppers, and have your steppers compete against each other.
- Setup Mode: You can change the 800S Stepper default settings and limits to match the way you want to operate.

So, the 800S Stepper is ideal for:

- Someone who's never used a stepper before uses manual mode, setting the speed to match what he or she can do.
- Regular exercisers who want to push themselves can use the standard programs to increase strength and endurance.
- Serious athletes who know their abilities and needs can custom-tailor the exact workouts they want.

Chapter 2 - Assembly and Setup

This chapter describes how to unpack and assemble your 800S Stepper, how to network two to eight steppers if you want to be able to use the group race feature, and how to use setup mode to configure the stepper for your situation.

Assembly Overview

It's easy to assemble the 800S Stepper-it will probably take about 30 minutes. You need these common tools:

- 3/16" Allen Wrench
- 7/16" Wrench or socket wrench and ratchet
- 1/2" Wrench

Here's an overview of the steps in the assembly:

1. Unpack your 800S Stepper and make sure you have all the parts.

2. Follow the detailed instruction for your stepper.

3. Plug in the power cord.

4. If you have more than one Stepper, connect the communications ports to allow group racing.

800S Stepper Assembly

Use the 7/16" or 1/2" socket or wrench to remove the clamps and screws or tie straps holding the chassis base to the pallet. Remove all the other parts from the shipping carton. Make sure you have all the parts by checking against the parts list.

CAUTION: Do not stand the display console upright tube on its end! Lay it flat instead. Standing it on end could damage the display ribbon cable.

Parts Lists for the 800S Stepper

Parts that come with your 800S Stepper are shown in Figure 1 and include:

Description	Qty	Part Number	Figure 1 Item #
Base Unit	1	70367	1
Display Upright Assembly	1	62007	2
Handrail Assembly (CT)	1	62029	3
Handrail Assembly (non CT)	1	62046	3
Collar Cover	1	30616W, 36016b & 36016G2	4
Configuration Kit	1	varies by country	5
Hardware Kit for 800S Stepper	1	71100	6
Termination Plug*	1	61026	n/a

*: The termination plug is already inserted in one of the communications sockets on the base of the 800S Stepper.

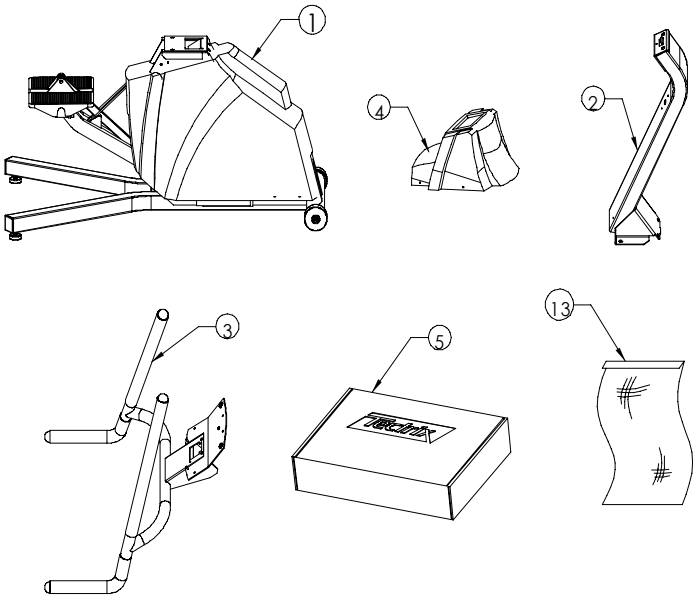


Figure 1. Packaged items

Figure 1-800S Stepper Packaged Items

The Hardware Kit for the 800S Stepper (#71100) contains:

Part Number	Qty	Description
14004	1	Daisy Chain Power Cord
41109	11	#10 x 3/4" Phillips-head Screws
41076	8	5/16" x 3/4" Bolts
43042	8	5/16" Washer

The console and related materials for the 800S Stepper are packed in the configuration kit included with the unit. This box includes the following:

Part Number	Qty	Description
03012	1	Service Manual
03154	1	Owner's Manual
51670	1	Water Bottle Holder
61033	1	Smart Link communications cable
Varies with country (14007 for USA)	1	Power Cord
Varies with language	1	800S Stepper Display Console

Attaching the Display Upright to the Base

Attach the display cable on the bottom of the display upright (2) to the end of the display cable on the base frame (1). Make sure the cable connector latches snap into place.

Attach the display upright (2) to the base frame (1) using four 5/16" screws (14) and four 5/16" lock was hers (15). Tighten all screws by hand first, then tighten the screws labeled 14a with a wrench, followed by the screws labeled 14b. See Figure 2.

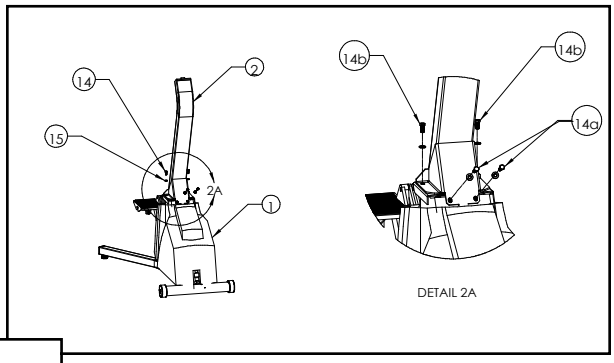


Figure 2 - Attaching Display Upright

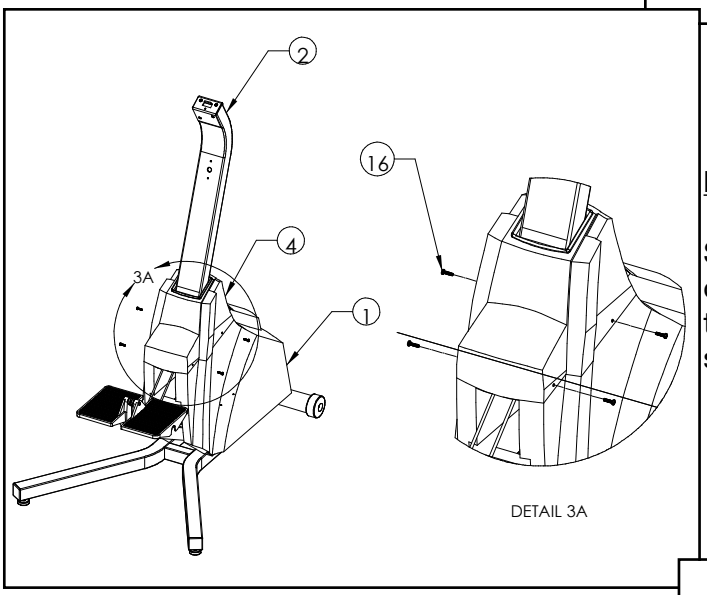


Figure 3 - Attaching the Display Upright Collar

Installing the Display Upright Collar

Slide the display upright collar (4) down over the display upright (2) and attach to the base frame cover (1) using four #10 screws (16), as shown in Figure 3.

Attaching the Handrails to the Display Upright

Place the handrails (3) on the end of the display upright (2), as shown in Figure 4. Make sure the handrail bracket hooks over the tab on the end of the display upright, and the display cable passes through the handrail bracket. This keeps the handrails in place until the you tighten the screws. Install the four 5/16" screws (14) and four 5/16" lock washers (15), tightening them all by hand. Finish tightening the screws with a wrench, tightening the screws labeled 14a first, then those labeled 14b.

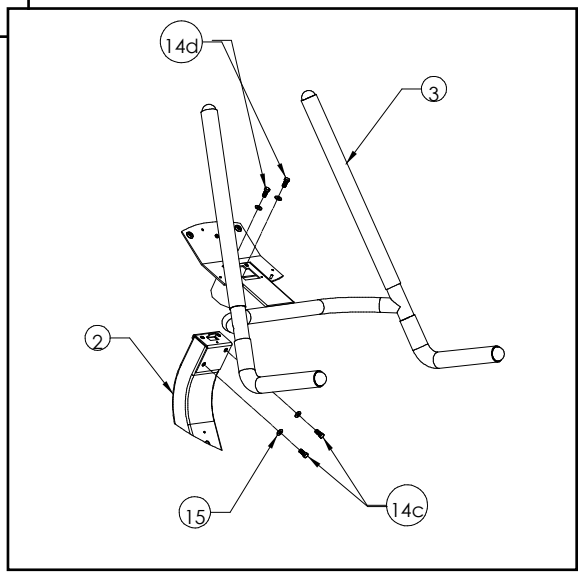


Figure 4 - Attaching the Handrails

Attaching the Display Console to the Handrails

Remove the display console (6) from the configuration kit (5). Attach the display ribbon cable and the heart rate monitor cable to the connectors (A and B) on the back of the console, as shown in Figure 5. Each cable will fit only one connector. Attach the green ground cable to the single flat connector (C) next to the ribbon cable connector.

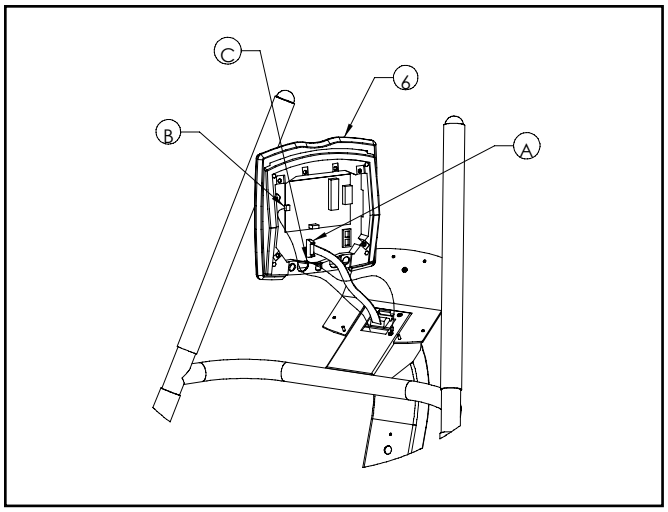


Figure 5 - Plugging Cables Into the Console

After connecting all cables, attach the display console to the console back plate (D) with four #10 screws (16) as shown in Figure 6.

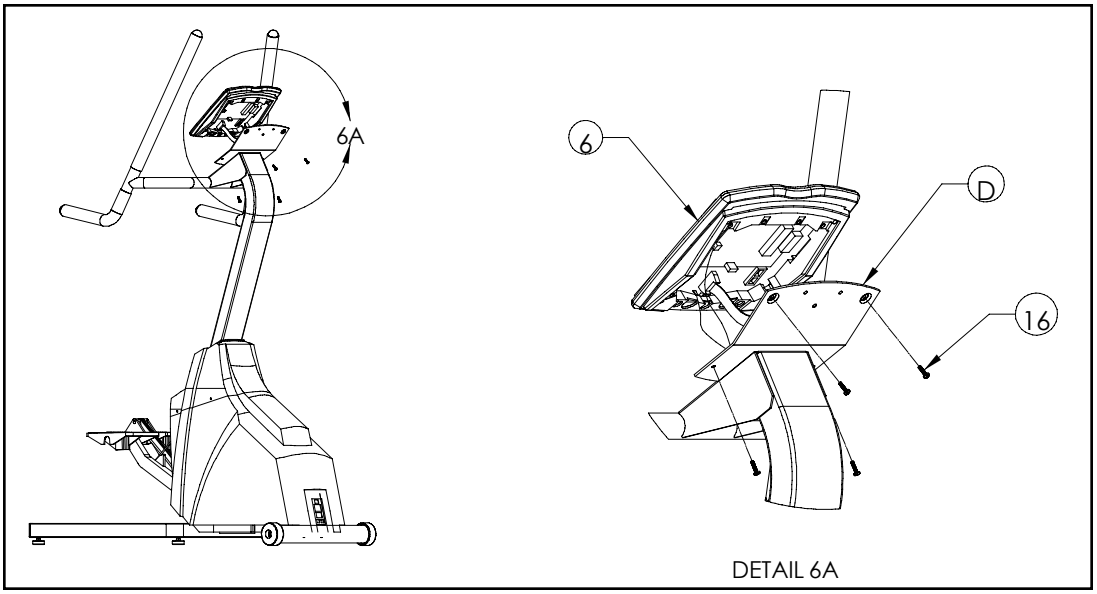


Figure 6 - Attaching the Display Console to the Back Plate

Remove the water bottle holder (7) from the configuration kit (5). Attach the water bottle holder to the console back plate using three #10 screws (16), as shown in Figure 7.

Attach the water bottle holder to the back plate using three screws. ***Important*:** if you choose not to install the water bottle holder, you must still screw the three screws into the open holes in the back plate to protect the electronics from the environment.

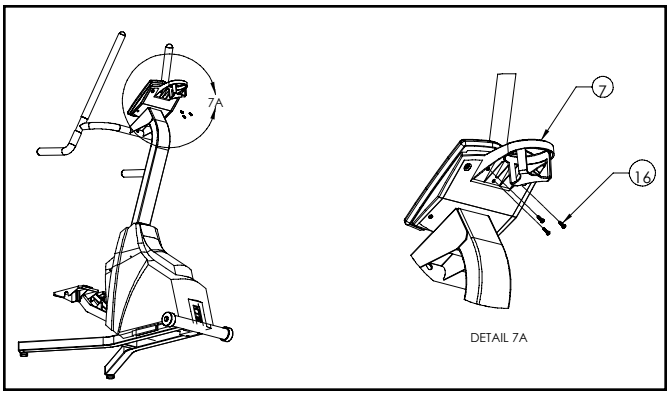


Figure 7-Attaching the Water Bottle Holder

Leveling the 800S Stepper

The 800S Stepper rests on two wheels at the front of the stepper and on two height-adjustable feet at the rear. First, move the stepper to where it will be used. See if you can rock it from side to side. If so, or if it is not level, turn one or both of the rear adjusting feet until the stepper is stable (you may need to loosen the lock nut(s) first). Once stable, tighten the lock nuts on the adjustable feet against the frame.

Connecting Steppers for Racing

The 800S Stepper offers a group race feature, where two to eight users compete against each other. To use this feature, you need to use the telephone-style SmartLink cables to attach the steppers. You can link up to 8 steppers in this manner:

1. Each the 800S Stepper is shipped with a termination plug already inserted in one of the communications sockets. You may need to remove this plug before making the connections described below.

2. Place a termination plug in the left socket of the first stepper. Run a SmartLink cable from the right socket on that stepper to the left socket on the second.

3. Run another cable from the right socket on the second stepper to the left socket on the third.

4. Continue in this way until you reach the last stepper. Place a termination plug in the right socket of the last stepper.

While the SmartLink cables look like standard telephone cables, their internal wiring is different. You cannot use telephone cables to connect the steppers; you must use SmartLink cables.

Setting Options

The 800S Stepper offers an easy-to-access setup menu to let you match the stepper's default settings and limits to your users' needs and the way you want to run your facility. You can set the maximum workout length, the language and measurement units used on the display, and more.

To set options:

1. Enter Setup Mode by turning the stepper off, then holding down the **Switch Display** key while turning it back on.

2. The first option shown is Language. For each of the following settings, use the up and down arrows to choose the value you want, then press **Enter** to move on to the next option.

- Language: Choose between English (the default), French, German, and Spanish. The rest of the prompts will display in the language you choose.
- Units: This appears only if you choose English as the language. Choose either English (feet and pounds) or Metric (meters and kilos). All other languages use metric units automatically
- Maximum Workout Time: The longest time a user is allowed to set for his or her workout. The original setting is 30 minutes. You can change this to up to the absolute maximum of 60 minutes.
- First Workout Time: This is the default time shown when a user begins a workout. The factory setting is 20 minutes; you can set this to up to the Maximum Workout Time.

- Time-Out: How long the stepper remembers workout information when someone stops during a workout. You can set this to 30 seconds, one minute, or two minutes. You can also choose to have no time-out; the stepper will remember the information until someone starts a new workout.
- Always Prompt or Step and Go: If you choose "Step and Go," a user can get on the 800S Stepper and start stepping, without entering any workout information. The default is "Always Prompt."

When a user chooses "Step and Go" operation, the 800S Stepper uses the default workout length (the one set as "First Workout Time") and default weight setting of 150 pounds (68kg).

- Announce Races: When someone else is starting a group race, should it be announced on this stepper if the stepper isn't being used? Choose Yes or No. See Chapter 4 for information on group races.
- Key Beep: Should the console keys beep when pressed? Choose Yes or No

3. When you're done setting options, press the **Clear** key twice to save your settings and leave setup mode.

   If you decide not to change the settings, turn the stepper off without leaving setup mode. All settings keep their previous values.

Drive Cable Maintenance

With proper maintenance, your 800S Stepper will provide you with years of trouble-free exercise. Routine maintenance is essential to not only preserve the life of the equipment, but also to avoid any possibility of personal injury. Particular attention should be given to the condition of the 800S Stepper drive cables. These cables will eventually wear out. We recommend drive cables be inspected regularly for signs of wear and replaced every 6 to 8 months with Cybex-supplied replacement cables. *Failure to perform drive cable maintenance procedures could lead to cable damage and serious injury.*

Chapter 3 - Let's Step

So far, we've discussed what the club or facility owner needs to do to get the 800S Stepper ready to use. This chapter describes how to use it; what each user needs to do to get the most out of his or her workout.

Overview

This is how you work out on the 800S Stepper:

1. Get on.
2. Select manual mode, a program, or one of the advanced features.
3. Enter how long you want to work out.
4. Enter your weight.
5. Press **Start**.
6. Start stepping!

During your workout, watch your progress on the console; if you want, you can change the stepping speed at any time. When you're done, the 800S Stepper shows your total distance, calories burned, and average speed.

The rest of this chapter tells you more about your choices at each of these steps. The advanced features are discussed in Chapter 4; heart rate control programs are covered in Chapter 5.

Before You Start

To get the most out of a 800S Stepper workout, be sure to follow these general exercise rules:

- Check with your doctor before starting any new exercise program.
- Wear comfortable workout clothing.
- Drink plenty of water or other fluids before, during, and after exercising.
- Stay loose and relaxed while working out.
- Maintain a balanced, upright posture while stepping.
- If you start to hurt, ***stop stepping.***

When stepping, you should have a smooth, stair-stepping action. The pedals should not hit the floor at the bottom of each stroke, or their upper limit at the top of the stroke. If they do, either step faster or adjust the 800S Stepper speed setting as described later in this chapter. Find a speed and technique that's comfortable for you; this could be short, quick steps or

long slow steps. Many steppers prefer to step at the top of the stroke, keeping the pedals high without hitting the upper stop.

Use the handrails only for balance; putting your weight on your arms means you aren't getting the full benefit of the workout. If you have the built-in CardioTouch heart rate monitor, you must keep your hands on the CardioTouch handles or handrail sensors to get a heart rate reading on the display.

Your Workout

There are two basic ways to use the 800S Stepper: in manual mode or using one of the preset workout programs. The following sections tell you how to use each of these modes.

The 800S Stepper advanced features-races and goal setting-are covered in Chapter 4.

Manual Mode

In manual mode, you tell the 800S Stepper how long you want to step; you can adjust your stepping speed at any time during the workout. Follow these steps:

1. Get on the 800S Stepper.

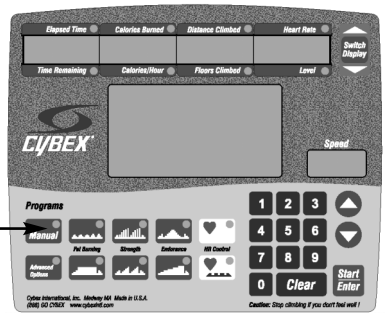
If your 800S Stepper is set for "Step and Go" operation, you can just step on the pedals and start stepping. 800S Stepper will automatically go into manual mode and use the default workout length. The calorie counts shown will be based on a 150 pound user, so they may not be accurate for you.

2. Press the **Manual** program key. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out. If you try to enter a time longer than the maximum for this the and 800S Stepper, it won't accept your entry. Press **Enter**.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown.

5. Press **Start**.



While you're stepping, the console shows your progress and statistics about your workout. For details about these displays, see the section "The Workout Display," later in this chapter.

You can raise or lower the workout level while you're stepping by pressing the up and down arrows. If you hold the key down, the setting will continue to change. Pick a speed that gives you a comfortable workout without causing pain. If you feel like you're straining to keep up, decrease the level until you can match it easily.

You can also change from manual mode to one of the programmed workouts or an advanced feature program, such as a race, during your workout. Just press the key for the program you want, then follow the instructions elsewhere in this manual.

If you need to pause during a workout, the stepper will remember your workout information for a fixed amount of time. If you stop for longer than this "time-out interval," the 800S Stepper resets itself, and you'll have to start a new workout. (See Chapter 2 for information on setting the time-out interval.)

When you finish, you see a workout summary giving the total distance, calories burned, and more. See "The Workout Display," later in this chapter, for a description.

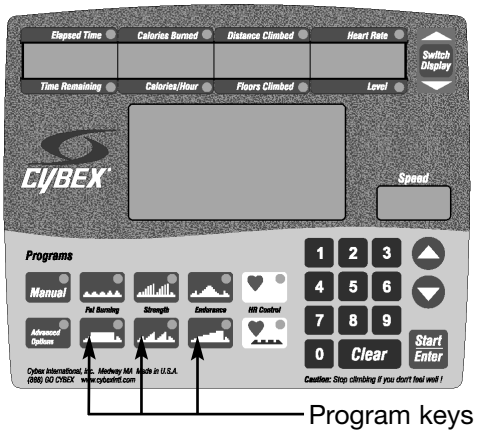
Using the Preset Programs

The 800S Stepper includes six preset workout profiles you can choose from. (If you have the heart rate monitor option, there are eight. The heart rate programs are described in Chapter 5). These profiles vary the stepper speed at set intervals to maximize either fat burning, strength training, or endurance building.

The graphs on the program keys show a "profile" of each workout. The higher bars indicate faster stepping. Each program begins with a warm-up and ends with a cool-down period; as you can see, the middle sections vary according to the type of workout.

1. Get on the 800S Stepper.

2. Press the key for the program you want. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.



If the 800S Stepper is set for "Step and Go" operation, the program will start immediately when you press the key, using the default length and a weight setting of 150 pounds. If you want to set the length and/or your correct weight, press the program key ***before*** you get on the 800S Stepper.

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out.

If you try to enter a time longer than the maximum for this 800S Stepper, it won't accept your entry. Press **Enter**.

When you change the length of a program, the 800S Stepper intelligently adjust the program's profile to match your setting. For the top fat burning program and both strength programs, it adds or removes repetitions of the center section; for the bottom fat burning program and the endurance programs, it increases or decreases the length of the center section. The warm-up and cool-down periods stay the same. If you set the workout length to five minutes, you do just the warm-up and cool-down.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown.

5. Press **Start**.

While you're stepping, the console shows your progress and statistics about your workout. For details about these displays, see the section "The Workout Display," later in this chapter.

The 800S Stepper starts at the default level for the program. You can raise or lower the level while you're stepping. This adjusts the entire program up or down the same number of levels. If you're interested in exactly how the level settings translate to vertical speed, see Appendix A. Pick a setting that gives you a comfortable workout without causing pain at the hardest parts of the program. If you feel like you're straining to keep up, decrease the level until you can match it easily.

If you need to pause during a workout, the stepper will remember your workout information for a fixed amount of time. If you stop for longer than this "time-out interval," the 800S Stepper resets itself, and you'll have to start a new workout. (See Chapter 2 for information on setting the time-out interval.)

When you finish, you see a workout summary giving the total distance, calories burned, and more. See "The Workout Display," later in this chapter, for a description.

The Workout Display

During your workout, the 800S Stepper console keeps you continuously updated about your progress. Three areas of the screen show different types of information:

- The four Progress Indicators at the top of the console show up to eight categories of information. At the beginning of a workout the four top categories are shown. Pressing the **Switch Display** button at the right of the fields switches between categories; the lights over and under each field indicate which information is currently displayed. If you hold down **Switch Display** for half a second, the fields will alternate between categories every five seconds.

The top four categories are:

Elapsed Time How long you've stepped so far.

Calories Burned The number of calories you've burned in this workout. This is based on the distance and the weight you entered at the start of the workout. If you don't enter an accurate weight, the calorie number will not be correct.

Distance Climbed In feet or meters. Each foot climbed is roughly equivalent to ten feet of running over level ground.

Heart Rate Your current heart rate in beats per minute. This is available only if you have the heart rate monitor option.

The four bottom categories are:

Time Remaining The time left in your workout.

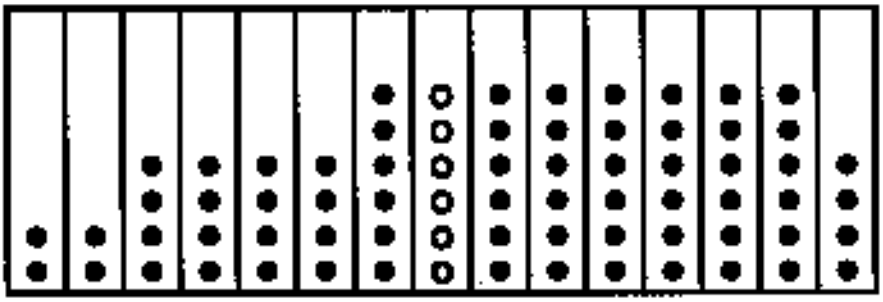
Calories/Hour How fast you're burning calories-the number of calories you'll burn in an hour-long workout if you maintain your current pace for the entire time.

Floors Climbed How many floors you've climbed so far. Each floor is 10 vertical feet (or three meters), or roughly equal to running 100 feet on level ground.

Level The current speed setting for the stepper. In manual mode, this is the actual setting you're stepping at; in a program, this is the base setting for the program-your stepping speed depends on where you are in the program.

- The Workout Graph in the middle of the console uses columns of lights to show the progress of your workout. In manual mode, each column represents 1/15th of your work out and shows the highest speed you reached in that period.

  In a program, the Workout Graph shows a detailed view of the current portion of your workout: each column of lights represents a 15 second segment, so the entire display covers 225 seconds (a little under four minutes). The height of the columns shows the relative speed; the blinking column is where you are right now. As you go through your workout, the blinking column moves slowly from left to right; when it reaches the right-most column, your workout is almost over. For example:



  The blinking column (shown as empty circles) indicates the workout is approximately half over. The speed will stay the same for the next 90 seconds (six columns), then decrease.

- The Speedometer field to the right of the Workout Graph shows your current stepping speed, in feet (or meters) per minute. If your speed doesn't look very impressive, remember that each foot of step is roughly equal to ten feet of running distance.

Workout Summary

After your workout, the Progress Indicators show a summary of your workout. The summary display rotates four different values, or five if you have the heart rate monitor option:

- The total number of floors you climbed. Each floor is ten vertical feet (or three meters).
- The calories you burned during the workout, based on the floors climbed and the weight you entered.
- The total vertical distance.
- Your average speed for the entire workout, in vertical feet (or meters) per minute.
- If you have a heart rate monitor, your current heart rate. This lets you monitor your recovery. You must continue to hold the handles (for a CardioTouch monitor) or stay in the correct position (for a Polar monitor).

Chapter 4 - Advanced Features

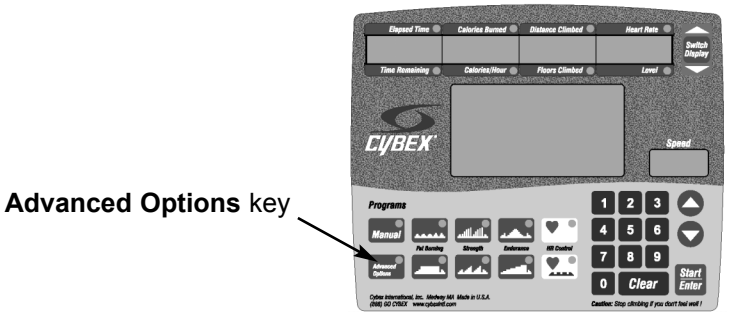
In addition to manual and program modes, the 800S Stepper includes features to make workouts more enjoyable and useful: calorie goal setting, group races to let users compete against each other, solo races against a computerized pacer, and a fitness test. You use all of these options by pressing the **Advanced Options** button.

Setting a Calorie Goal

If it's important to you to burn a certain number of calories during your workout, the calorie goal option is for you. With this feature, the 800S Stepper sets the stepping speed so you burn the number of calories you want in the time you have allotted. To set a calorie goal:

1. Get on the 800S Stepper.

2. Press the **Advanced Options** key. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.



   The top display should read "Calorie Goal." If it doesn't, press **Advanced Options** until it does, then press **Enter**.

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out. If you try to enter a time longer than the maximum for this, the 800S Stepper, it won't accept your entry. Press **Enter**.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown. Press **Enter**.

5. Set the number of calories you want to burn during the workout. Either type the number or use the arrow keys to raise or lower the value shown.

6. Press **Start**.

The 800S Stepper calculates the speed you'll need to reach your calorie goal in the time you've entered. It ramps up to this speed, then keeps you there for the duration of the workout. You can change your calorie goal during the workout; the 800S Stepper will adjust the speed setting to match.

The level display shows your calorie goal. During the workout, you can adjust this by pressing the arrow keys and entering a new goal. The rest of the display is as described in "The Workout Display" in Chapter 3.

Group Racing

In a group race, you compete against from one to seven other users to reach a goal distance. The progress of each user in the race is shown on your console. This section describes how you can start a race, and how you can join a race being started by another user.

To start a group race:

1. Get on the 800S Stepper.

2. Press the **Advanced Options** key. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.

   Press **Advanced Options** until the top display reads "Group Race," then press **Enter**

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out. You should enter a time that's long enough to reach the goal distance for the race, which you'll set later. It's all right if the workout length is too long for the race, but it shouldn't be too short. If you try to enter a time longer than the maximum for this, the 800S Stepper, it won't accept your entry. Press **Enter**.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown. Press **Enter**.

5. Select the goal distance for the race. Use the arrow keys to raise or lower the value shown. Any other stepper can also press **Advanced Options** until he or she is in Group Race mode, then adjust the goal distance. When any one of the steppers in Group Race mode presses **Enter**, the goal is set and the countdown starts.

6. During the countdown phase, any stepper can join the race in one of two ways:

- Press **Advanced Options** until he or she is in Group Race mode, then press **Enter**.

- If an unused 800S Stepper is announcing the race, someone can get on it and press **Enter**.

Even if you first started the race, if someone else pressed **Enter** to set the goal, you must now press **Enter** to join the race.

If you change your mind about being in the race after you press **Enter**, press **Clear** during the countdown to drop out.

The countdown starts from ten seconds; each time another racer joins, the countdown resets to ten seconds. When ten seconds goes by with no more racers joining, the race begins.

7. Start stepping!

To join a race started by another stepper:

- If you're already on a stepper, press **Advanced Options** until you're in Group Race mode, then press **Enter**. If the goal hasn't yet been set, you can change it using the arrow keys, as described above.

- If you see a race announcement on an unused 800S Stepper, just get on and press **Enter**.

- If an unused 800S Stepper isn't announcing the race, but is attached to the other steppers, you can still join. Get on it, press **Advanced Options** until you're in Group Race mode, then press **Enter**.

If you change your mind during the countdown, press **Clear** to leave the race.

Wait for the countdown to end, as described above, and start stepping.

During the race, horizontal rows of dots on the Workout Graph show the progress of each racer. The first racer to join is at the top; your row is blinking. The race goal is at the far right of the display. The level readout shows the distance to the leading competitor. If you're ahead, the distance has a plus sign; if you're behind, it shows a minus sign. The rest of the display is as described in "The Workout Display" in Chapter 3.

Solo Racing

In solo racing, you step a predetermined distance against a computerized pacer. You can see both your progress and the pacer's during the workout. To start a solo race:

1. Get on the 800S Stepper.

2. Press the **Advanced Options** key. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.

   Press **Advanced Options** until the top display reads "Solo Race." Press **Enter**.

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out. You should enter a time that's long enough to reach the goal distance for your race, which you'll set later. It's all right if the workout length is too long for the race, but it shouldn't be too short. If you try to enter a time longer than the maximum for this 800S Stepper, it won't accept your entry. Press **Enter**.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown. Press **Enter**.

5. Select your goal distance for the race. Either type the number or use the arrow keys to raise or lower the value shown. Press **Enter**.

6. Select a speed, in feet per minute, for the pacer. Your progress will be compared to the pacer's throughout the race. If you don't want a pacer, set the pacer's speed to zero.

7. Press **Start**.

After a short countdown, your workout begins. The Workout Graph shows two rows of dots: the top row is your progress, the bottom row is the pacer. Your goal distance is at the right side of the display. The level readout shows the distance to the pacer. If you're ahead, the distance has a plus sign; if you're behind, it shows a minus sign. The rest of the display is as described in "The Workout Display" in Chapter 3.

Fitness Test

The 800S Stepper offers a five-minute fitness test. You can take this test only on a 800S Stepper with a heart rate monitor. It works this way:

The 800S Stepper starts at 30 feet per minute, then increases the speed by five feet each minute, up to 50 feet per minute for the fifth minute. It measures your heart rate at the end of each minute. After the test, 800S Stepper calculates and displays your fitness score. The score is an estimate of your VO2 Max; it measures the rate at which you can supply oxygen to your cells. The table at the end of this section will help you interpret your score.

Your score will be an accurate measure of your condition only if your heart rate is at its resting level when you begin.

To start the fitness test:

1. Get on the 800S Stepper.

2. Press the **Advanced Options** key. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.

   Press **Advanced Options** until the top display reads "Fitness Test." Press **Enter**.

3. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown. Press **Enter**.

4. The 800S Stepper asks for your age. Type it or use the arrow keys to raise or lower the age shown. Press **Enter**.

5. The display then shows "Sex = Male." If you are a woman, press the up arrow to show "Female."

6. Press **Start**.

This starts the test. You cannot change the speed setting during the test. The display is the same as described in "The Workout Display" in Chapter 3.

At the end of the test, the 800S Stepper displays your estimated VO2 Max, as described above. Use the following table to interpret your score:

		Fitness Classifications				
	Age	**Low**	**Fair**	**Average**	**Good**	**High**
Women	20-29	< 24	24-30	31-37	38-48	49+
	30-39	< 20	20-27	28-33	34-44	45+
	40-49	< 17	17-23	24-30	31-41	42+
	50-59	< 15	15-20	21-27	28-37	38+
	60-69	< 13	13-17	18-23	24-34	35+
	Age	**Low**	**Fair**	**Average**	**Good**	**High**
Men	20-29	< 25	25-33	34-42	43-52	53+
	30-39	< 23	23-30	31-38	39-48	49+
	40-49	< 20	20-26	27-35	36-44	45+
	50-59	< 18	18-24	25-33	34-42	43+
	60-69	< 16	16-22	23-30	31-40	41+

Fitness Test Reminders: To obtain an accurate assessment of your physical condition, we suggest you consider a number of factors which may influence your heart rate when planning your test

- amount of sleep the previous night
- amount of caffeine, alcohol, and/or nicotine consumed and the time elapsed since consumption
- time of day of the test
- time since last meal
- time since last exercise

For best results, we suggest you perform the fitness test on three consecutive days under similar conditions and average the three scores.

Custom Program

There are two steps to using a custom program: designing it and selecting it. You design it once, using Setup Mode; you can then select it whenever you workout. A 800S Stepper can have only one custom program saved at a time.

A custom program consists of up to 60 segments. You set the height for each segment when you design the program, as described below. When you select your custom program during a workout, the 800S Stepper divides the workout length you enter by the number of segments to determine the length of each segment.

Designing a Custom Program

1. Put the 800S Stepper into Setup mode by turning the stepper off, then holding down the **Switch Display** key while turning it back on.

2. Press **Advanced Options**.

3. If there's an existing custom program on this 800S Stepper, it is displayed; if there isn't, the workout graph is blank.

   Now you choose the setting for the first segment of the program. Press the up arrow to raise the setting or the down arrow to lower it. When the height is correct, press **Enter** to move to the next segment. The display scrolls to the left as you move through the program.

4. Repeat this process for each segment of the program: use the arrow keys to set the height, then press **Enter** to move to the next segment.

5. If the program has less than 60 segments, enter a segment with a level of 0 to end the program.

If you make a mistake while defining the program, you can press **Advanced Options** to move back to a previous segment and correct it.

6. When you're done, press **Clear** to save the program and leave Setup Mode.

Using a Custom Program

1. Get on the 800S Stepper.

2. Press the **Advanced Options** key. If you press a key somewhere else on the console, an arrow will point toward the program keys, instructing you to select one.

   Press **Advanced Options** until the top display reads "Custom." Press **Enter**.

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out. If you try to enter a time longer than the maximum for this 800S Stepper, it won't accept your entry. Press **Enter**.

   The 800S Stepper will take the workout length you enter and divide it by the number of segments in your custom program to determine the length of each segment. For example, if you have a program with 15 segments and enter a workout length of 30 minutes, each segment is 2 minutes long.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown.

5. Press **Start**.

While you're stepping, the 800S Stepper operates just like it does during one of the preset programs. The console shows statistics about your workout, and you can raise or lower the overall level of the program, or pause during it, all as described in Chapter 3.

Chapter 5 - Heart Rate Program

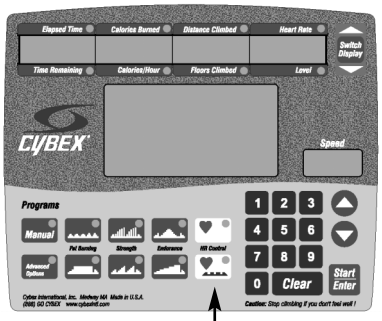
Heart Rate Monitor

As an option, the 800S Stepper includes a heart rate monitor, either a CardioTouch monitor built into the handles of the stepper itself, or in a harness you wear. In either manual mode or using any of the programs described earlier, the heart rate monitor merely gives you more information-it lets you see your current heart rate at any time.

However, used with the 800S Stepper Heart Rate Control programs, this option lets you design a workout tailored to your age and condition:

1. Get on the 800S Stepper.

2. Press one of the two HR Control program keys:
   - The top key is the Constant HR program: it gradually builds to your target heart rate, then keeps you there.
   - The bottom key is the Heart Rate Interval program: it alternates you between an upper heart rate target and a lower heart rate target.



HR Control Program keys

If the 800S Stepper is set for "Step and Go" operation, the program will skip steps 3 and 4; it will use the default workout length and a weight setting of 150 pounds. If you want to set the length and/or your correct weight, press the **HR Control** program key ***before*** you get on the 800S Stepper.

3. The display will show the default workout length. You can change this using the up and down arrow keys, or use the keypad to type the number of minutes you want to work out. If you try to enter a time longer than the maximum for this the 800S Stepper, it won't accept your entry. Press **Enter**.

4. Enter your weight. The 800S Stepper uses this to calculate how many calories you burn during your workout, so be sure to allow for your clothing and shoes. In general, add about five pounds to your base weight to get an accurate reading. Again, either type the weight or use the arrow keys to raise or lower the value shown. Press **Enter**.

5. Type your age or use the up and down arrow keys to set it. Press **Enter**.

6. The display will show your target heart rate (based on your age) and the percentage of your maximum heart rate. Set the target heart rate you want for this workout and press **Enter**. For the Interval Heart Rate program, set the upper target rate, press **Enter**, then set the lower target and press **Enter** again.

7. Start stepping.

Over the first few minutes of your workout, the 800S Stepper will gradually build you up to your target heart rate. For the Constant program, it will then keep you at this rate until the cool-down at the end of the workout. For the Interval program, it will gradually

alternate you between the upper and lower target rates, giving you a variable cardiovascular workout.

While you're stepping, the fields at the top of the console show statistics about your workout. For details about this display, see the section "The Workout Display," in Chapter 3. During a Constant program, the workout graph shows a horizontal line representing your target heart rate. Each column of lights is your heart rate for a segment of the workout, moving from right to left. Each light represents ten beats per minute. The blinking column is your current heart rate.

During an Interval program, the display is similar: two lines represent your upper and lower targets and a blinking dot represents your current heart rate.

If you need to pause during a workout, the stepper will remember your workout information for a fixed amount of time. When you resume, it will gradually bring you back to your target heart rate. If you stop for longer than this "time-out interval," the 800S Stepper resets itself, and you'll have to start a new workout. (See Chapter 2 for information on setting the time-out interval.

When you finish, you see a workout summary giving the total distance, calories burned, and more, including your heart rate as you recover. See "The Workout Display" in Chapter 3 for a description.

Chapter 6 - Testing the 800S Stepper Performance

You can test the electronics inside the 800S Stepper by using test mode. In test mode, you can adjust the tension of the drive belt, check the odometer reading, and test all the LEDs on the console.

To enter test mode, turn the 800S Stepper off, then press and hold the upper **HR Control** key while turning it back on. All displays will light until you release the key.

In test mode, the eight red lights above and below the Progress Indicator fields show the state of the 800S Stepper's various input/output signals:

Indicator	Signal	Normal
Elapsed Time	Smart Link Out	off
Time Remaining	Smart Link In	off
Calories	Slack Switch	on
Distance Climbed	RPM sensor off	-
Floors Climbed	RPM sensor on	-
Heart Rate	CardioTouch signal	off
Level	Polar signal	off

The Progress Indicator fields themselves display the word "Test" followed by the version number of the 800S Stepper's internal software and the state of the slack switch (either "Slack" or "Tight").

While the stepper is in test mode, some of the console keys have special functions:

Switch Display Displays the odometer reading and RPM sensor data. Press **Clear** to return to the normal test mode display.

Up Arrow Loosens the belt. The belt tensioning motor runs for as long as you hold the key down. Don't loosen the belt for too long, or you may tangle or unsnap the belt.

Down Arrow Tighten the belt. The belt tensioning motor runs for as long as you hold the key down.

Upper HR Control Tests each LED digit group, in turn. Press the key again to go to the next group. Press **Clear** to return to the normal test mode display.

Lower HR Control Tests each LED segment, in turn. Press the key again to go the next segment. Press **Clear** to return to the normal test mode display.

Enter Lights all display LEDs. Press **Clear** to return to the normal test mode display.

Clear Clears special displays and returns to normal test mode display. From normal display, ends test mode.

To leave test mode, press **Clear**. If you had used one of the keys listed above to switch to a special display, this returns to the normal test mode display. Press **Clear** again to leave test mode.

Appendix A - Climber Level to Speed Conversion

When you adjust the speed during a 800S Stepper workout, you're really adjusting the "level" you have the stepper set to. While the stepping speed does increase as you raise the level, there is not a direct relationship between the level number shown in the Progress Indicator area and your vertical speed.

At lower levels, each level raises your speed by five feet per minute; at higher levels each level represents a ten foot increase. The following chart shows the stepping speed for each level setting you can use during a programmed workout. The lowest speed for each level is the speed at a height of one on the workout; higher speeds are for the more difficult parts of the program.

Exercise Level

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
150															●
140														●	●
130													●	●	●
120												●	●	●	●
110											●	●	●	●	●
100										●	●	●	●	●	●
90									●	●	●	●	●	●	●
80								●	●	●	●	●	●	●	●
75							●	●	●	●	●	●	●	●	
70						●	●	●	●	●	●	●	●		
65					●	●	●	●	●	●	●	●			
60				●	●	●	●	●	●	●	●				
55			●	●	●	●	●	●	●	●					
50		●	●	●	●	●	●	●	●						
45	●	●	●	●	●	●	●	●							
40	●	●	●	●	●	●	●								
35	●	●	●	●	●	●									
30	●	●	●	●	●										
25	●	●	●	●											
20	●	●	●												
15	●	●													
10	●														

Appendix B - Speed and Energy Conversions

The table below shows approximate values for energy used at various speeds during a 800S Stepper workout. The values shown are for a 150 pound stepper.

Ft/Min	M/min	MPH	Km/H	METS	KPM/S	Watts	Cal/Hour
10	3.0	3.2	5.2	1.6	3.5	34	146
15	4.6	3.7	5.9	2.4	5.2	51	219
20	6.1	4.1	6.7	3.1	6.9	68	292
25	7.6	4.6	7.4	3.9	8.6	85	365
30	9.1	5.0	8.1	4.7	10.4	102	438
35	10.7	5.5	8.9	5.5	12.1	119	511
40	12.2	5.9	9.6	6.3	13.8	135	584
45	13.7	6.4	10.4	7.1	15.5	152	656
50	15.2	6.8	11.1	7.8	17.3	169	729
55	16.8	7.3	11.8	8.6	19.0	186	802
60	18.3	7.8	12.6	9.4	20.7	203	875
65	19.8	8.2	13.3	10.2	22.5	220	948
70	21.3	8.7	14.0	11.0	24.2	237	1021
75	22.9	9.1	14.8	11.8	25.9	254	1094
80	24.4	9.6	15.5	12.5	27.6	271	1167
85	25.9	10.0	16.2	13.3	29.4	288	1240
90	27.4	10.2	17.0	14.1	31.1	305	1313
95	29.0	10.9	17.7	14.9	32.8	322	1386
100	30.5	11.4	18.5	15.7	34.5	339	1459
110	33.5	12.3	19.9	17.2	38.0	373	1605
120	36.6	13.2	21.4	18.8	41.5	406	1751
130	39.6	14.1	22.9	20.4	44.9	440	1896
140	42.7	15.0	24.3	21.9	48.4	474	2042
150	45.7	15.9	25.8	23.5	51.8	508	2188
160	48.8	16.8	27.3	25.1	55.3	542	2334
170	51.8	17.8	28.8	26.6	58.7	576	2480
180	54.9	18.7	30.2	28.2	62.2	610	2626
190	57.9	19.6	31.7	29.8	65.6	644	2772
200	61.0	20.5	33.2	31.4	69.1	677	2918

Notes:

1. The horizontal equivalent speeds (miles and kilometers per hour) are approximations based on average energy expenditure.

2. The Calories/Hour and METS figures are based on an estimate of 20% metabolic efficiency. Actual caloric use will vary for each individual.

3. Kilopond-meters/second (KPM/S) = (speed in meters/second) X (weight in kilos).

4. Watts = (speed in meters/second) X (weight in kilos) X (9.8 meters/second2).

Appendix C - Cardiatouch™ Heart Rate Monitor

Your 800S Stepper may be equipped with CardioTouch™ technology, bringing you the convenience and accuracy of the most advanced heart rate monitoring system available.

♥ Easy to Use

Using CardioTouch is simple, because no special setup is required. Just select the workout routine you prefer and begin exercising. To see your pulse, simply touch both right and left CardioTouch sensors. The pulse symbol will begin flashing in the "Heart Rate" field of your console, indicating that CardioTouch has gone to work. Your heart rate will display within a few seconds.

♥ Heart Rate Control Compatible

If you prefer to use one of the built-in Heart Rate Control workout routines, simply select the workout of your choice, as described in Chapter 5, touch the CardioTouch sensors, and begin to exercise. Although it is best to remain in contact with the sensors, it is okay to let go occasionally.

♥ Versatile

The CardioTouch grip is made of a conductive rubber for comfort. This system requires only a light touch from each hand on the grips to register the heartbeat. In fact, the CardioTouch system is so sensitive that it can sense your pulse by making contact with any combination of wrists, forearms, fingers, or palms. Just remember, you must touch the grips on the left and right sides at the same time to get the heartbeat signal.

Not Getting a Reading?

If your heart rate does not appear on the console, or if it changes erratically, the reason could be:

- **Biological differences:** Due to biological differences among people, the clarity of the electrical heartbeat signal that CardioTouch senses can vary greatly. For this reason, CardioTouch may not be able to calculate the correct heart rate for some people. This is a common limitation among all handgrip style heart rate monitors.

- **Body motion on the 800S Stepper:** Intense body motion can obscure your heartbeat signal, so it is sometimes difficult for CardioTouch to correctly calculate your heart rate on the 800S Stepper machines. This may result in erratically changing readings. If you have this problem, reduce your steppbing speed or stop moving momentarily to allow Cardio Touch to lock back onto your pulse. Then gradually increase your stepping motion and CardioTouch will follow. At high stepping speeds, you may need to modify your style in order to reduce upper body motion.

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